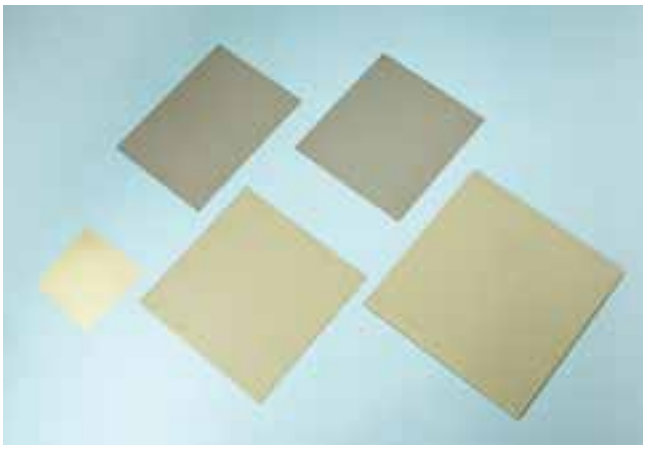
Plain substrates (AℓN, Si_3N_4)

We offer plain substrates, which have a dense, minute microstructure made by our material and sintering technology that took a long time to develop. To meet diversified needs of customers, we line up four kinds of aluminum nitride (AℓN) plain substrates that differ in thermal conductivity and a high thermal conductive silicon nitride (Si_3N_4) plain substrate with excellent mechanical properties. Our plain substrates have a low thermal expansion coefficient similar to those of silicon semiconductor chips, which means that they are best fit for semiconductor mounting substrates. They are widely applied to various substrates including submount substrates and thick/thin microwave circuit substrates.



Standard design

Item	Unit	Aluminum nitride (AℓN)			Silicon nitride (Si_3N_4)
		TAN-170	TAN-200	TAN-230	TSN-90
Outer dimensions	mm	MAX 160×160 φ210	MAX 160×160	MAX 100×100	MAX 170×130
	Tolerance	Standard ±1% ±0.2mm (Laser cut)			±0.15 (Laser cut)
Thickness	mm	0.4~2.5	0.4~1.5	0.635	0.32 0.635
	Tolerance	Standard ±10% ±0.02mm (Abrasive processing)			±0.05mm
Warp	mm/mm	0.4% Under			0.4% Under (≦50mm)
Surface area	—	Standard / Blast processing (Honing) / Lapped / Polished / No surface finish (As-Fired)			Blast processing (Honing)

Temperature dependency of thermal conductivity and coefficient of thermal expansion